

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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AUG 22 2002

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Applicants: Glenn, Thomas P.; Webster, Steven

Assignee: Amkor Technology, Inc.

Title: Integrated Circuit Package Including Interconnection Posts For Multiple Electrical Connections

Serial No.: 09/966,841

Filing Date: September 27, 2001

Examiner: Tuan T. Dinh

Group Art Unit: 2827

Docket No.: M-9225 US

San Jose, California
August 8, 2002

COMMISSIONER FOR PATENTS
Washington, D. C. 20231

RESPONSE TO OFFICE ACTION MAILED MAY 8, 2002

Dear Sirs:

Applicants respond to Office Action mailed May 8, 2002 as follows.

IN THE CLAIMS

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Please cancel claims 11-23. Please add new claims 24-32. Below is a list of all of the now pending claims.

1. An integrated circuit package comprising:
 - a molded plastic body;
 - a plurality of plastic posts each extending integrally from said body;
 - a plurality of electrically separate metal terminals coating a sidewall of at least one of said posts;
 - a plurality of electrically conductive paths each electrically coupled to at least one of said metal terminals; and

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an integrated circuit including a plurality of bond pads, said integrated circuit mounted on said body and electrically coupled to at least some of said paths through said bond pads.

2. The integrated circuit package of Claim 1, wherein a total number of said posts is less than a total number of said bond pads.

3. The integrated circuit package of Claim 1, wherein said posts are arranged in a checkerboard pattern.

4. The integrated circuit package of Claim 1, wherein a shape of at least some of said posts comprises a cylinder.

5. The integrated circuit package of Claim 1, wherein a shape of at least some of said posts is substantially cylindrical and includes at least one projection.

6. The integrated circuit package of Claim 5, wherein an exterior surface of said projection is coated by a respective one of said metal terminals.

7. The integrated circuit package of Claim 1, wherein a shape of at least some of said posts comprises hexagonal.

8. The integrated circuit package of Claim 1, further comprising a plurality of bond wires each electrically coupled between said bond pads and at least some of said paths.

9. The integrated circuit package of Claim 1, further comprising an encapsulant material covering at least a part of said integrated circuit.

10. The integrated circuit package of Claim 1, wherein said integrated circuit comprises a flip chip.

24. (New) The integrated circuit package of Claim 1, wherein the plastic body includes opposed surfaces, and some of said posts extend from each of the opposed surfaces.

25. (New) An integrated circuit package comprising:

a plastic body with a plurality of plastic posts each extending integrally from said body, each said post having a plurality of separate metal layers coated on a sidewall of the post;

metal traces overlying the plastic body;

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metal vias extending through the plastic body, with each via being electrically coupled between at least one said trace and one said metal layer; and

an integrated circuit coupled to said body, wherein the integrated circuit is electrically coupled to at least two of the separate metal layers of each of at least two of the posts through some of said metal traces and said vias.

26. (New) The integrated circuit package of Claim 25, wherein the integrated circuit includes a plurality of bond pads each electrically coupled to one of said metal layers, and a total number of said posts is less than a total number of said bond pads.

27. (New) The integrated circuit package of Claim 25, wherein said posts are arranged in a checkerboard pattern.

28. (New) The integrated circuit package of Claim 25, wherein a shape of at least some of said posts comprises a cylinder.

29. (New) An integrated circuit package comprising:

a plastic body with a plurality of plastic posts each extending integrally from said body, each said post having a plurality of separate metal layers coated on a sidewall of the post;

an integrated circuit coupled to said body, wherein the integrated circuit is electrically coupled to at least two of the separate metal layers of each of at least two of the posts.

30. (New) The integrated circuit package of claim 29, wherein the integrated circuit is electrically coupled to the at least to separate metal layers through metal traces overlying said body.

31. (New) The integrated circuit package of Claim 29, wherein the plastic body includes opposed surfaces, and some of said posts extend from each of the opposed surfaces.

32. (New) The integrated circuit package of Claim 29, wherein the integrated circuit includes a plurality of bond pads each electrically coupled to one of said metal layers, and a total number of said posts is less than a total number of said bond pads.

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REMARKS

Embodiment I is selected. Claims 1-4, 6, and 8-9 read on embodiment I. Claims 5, 7, 10, and new claim 24 are directed to a non-elected species, but are not cancelled, since claim 1 is generic to these species. If claim 1 is allowable, then these claims should be considered. New claims 25-30 and 32 read at least on Embodiment I. Claim 31 is directed to a non-elected species, but should be considered if claim 29 is allowable.

Please contact the undersigned with any questions or comments at 408 487-1315.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents and Trademarks, Washington, D.C. 20231, on 8/8/02 2002.

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8,8,02
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Respectfully submitted,

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